



# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

DONALD L. WOLFE, Director

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IN REPLY PLEASE  
REFER TO FILE: WM-6

August 31, 2006

The Honorable Board of Supervisors  
County of Los Angeles  
383 Kenneth Hahn Hall of Administration  
500 West Temple Street  
Los Angeles, CA 90012

Dear Supervisors:

**AMENDMENT TO THE ANTELOPE VALLEY FINAL REPORT ON THE  
COMPREHENSIVE PLAN OF FLOOD CONTROL AND WATER CONSERVATION  
SUPERVISORIAL DISTRICT 5  
3 VOTES**

**IT IS RECOMMENDED THAT YOUR BOARD, AFTER A PUBLIC HEARING:**

Approve the enclosed Amendment to the Antelope Valley Final Report on the Comprehensive Plan of Flood Control and Water Conservation (Plan), which increases the fees for drainage facilities to be paid by subdividers in the Antelope Valley Drainage Area, pursuant to County Code, Section 21.32.400, and provides for the annual review and adjustment of such fees corresponding to future increases in the Construction Cost Index for the Los Angeles area.

**PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION**

In 1987 your Board approved the Plan prepared by the County of Los Angeles Department of Public Works. The goal of the Plan is to address drainage issues created by development in the absence of a coordinated regional flood control district. The Plan requires developers of new subdivisions in County unincorporated areas of the Antelope Valley Drainage Area to pay an impact fee that would eventually fund the planning, design, and construction of the Plan's proposed infrastructure. To date, these fees have paid for regional coordination and planning efforts and the acquisition of right of way for future drainage facilities.

The Honorable Board of Supervisors  
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The Plan contains provisions for updating costs and drainage fee calculations, but to date there have been no fee increases. Since 1987 the Construction Cost Index shows that costs have significantly increased. At the same time, development of the Antelope Valley has increased and is expected to continue. Annexation and zoning have altered the type and amount of development in the Antelope Valley Drainage Area. Therefore, we propose that the existing fees be revised to reflect the updated cost of construction and the current type and amount of development occurring within the Antelope Valley Drainage Area. The supporting data for the proposed fee increase, including detailed engineering quantity, costs, and analysis is enclosed (Attachments 1-11).

The fees set forth herein shall be reviewed annually by the Director of Public Works. Beginning on July 1, 2007, and thereafter on each succeeding July 1, the amount of each fee shall be adjusted as follows: calculate the percentage movement between March of the previous year and March of the current year in the Construction Cost Index for all urban construction in the Los Angeles area, as published by the Engineering News Record statistics, adjust each fee by the said percentage amount and round up to the nearest dollar. However, no adjustment shall decrease any fee and no fee shall exceed the reasonable cost of providing services. When it is determined that the amount reasonably necessary to recover the cost of providing services is in excess of this adjustment, the Director may present fee revision proposals to the Board of Supervisors for approval.

### **Implementation of Strategic Plan Goals**

This action meets the County Strategic Plan Goal of Fiscal Responsibility by providing a sufficient fund for future planning, design, and construction of drainage facilities in the Antelope Valley.

### **FISCAL IMPACT/FINANCING**

There is no impact to the County General Fund. The fee increase will increase the revenue for the Antelope Valley Drainage Fee District Fund.

### **FACTS AND PROVISIONS/LEGAL REQUIREMENTS**

The Antelope Valley Drainage Area fees are imposed on developers pursuant to Section 66483, et seq., of the Government Code. Section 66483 authorizes the County to impose, by ordinance, a requirement for the payment of fees to defray the actual or

The Honorable Board of Supervisors  
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estimated costs of constructing planned drainage facilities for the removal of surface and stormwater from local or neighborhood drainage areas.

The County's ordinance implementing this authorization, generally, is codified in Section 21.32.400 of the Los Angeles County Code.

The Antelope Valley Drainage Area in particular was adopted in 1987 by Ordinance 87-0083, based on the Plan.

Part V., Section E of the Plan provides as follows:

Development of the land located within the Antelope Valley Drainage Area is not constant nor is the cost of construction. Therefore, in order to equitably assess future development as well as collect sufficient funds to construct those facilities attributable to future development, it is necessary to periodically evaluate the Construction Cost Index and the type and amount of development being constructed within the Antelope Valley Drainage Area. With this information, the drainage fee may be increased or decreased as appropriate.

Pursuant to Section 66018 of the Government Code, prior to adopting an ordinance, resolution, or other legislative enactment approving an increase in an existing fee, the County must hold a public hearing at which oral or written presentations can be made. Notice of the time and place of the meeting, including a general explanation of the matter to be considered, must be published in accordance with Section 6062(a) of the Government Code. Section 6062(a) requires that the notice be published for ten days in a newspaper regularly published once a week or more often, or in two publications with at least five days intervening between the dates of first and last publication not counting such publication dates being sufficient.

The enclosed Amendment has been reviewed by County Counsel and approved as to form.

The Honorable Board of Supervisors  
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**ENVIRONMENTAL DOCUMENTATION**

A Negative Declaration for the Plan was approved by your Board in connection with the adoption of the Antelope Valley Drainage Area on June 23, 1987.

**IMPACT ON CURRENT SERVICES (OR PROJECTS)**

There would be no adverse impact on current services.

**CONCLUSION**

Please return three adopted copies of this letter to Public Works.

Respectfully submitted,



DONALD L. WOLFE  
Director of Public Works

BH:ad

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Enc.

cc: Auditor-Controller  
Chief Administrative Office  
County Counsel

**AMENDMENT TO ANTELOPE VALLEY FINAL REPORT ON  
THE COMPREHENSIVE PLAN OF FLOOD CONTROL AND  
WATER CONSERVATION, JUNE 1987**

The Los Angeles County Department of Public Works hereby proposes the following amendments to the Antelope Valley Final Report on the Comprehensive Plan of Flood Control and Water Conservation dated June 1987 (Plan).

Section IV.E, paragraphs 1 and 2, page 6 of the Plan, are hereby amended to read as follows:

The comprehensive plan proposes flood plain management in the hillside areas of the valley, nonstructural management approaches in the rural areas, and structural improvements in the urbanizing area. The structural improvements proposed for the urbanizing areas of the valley include 8 basins ranging in size from 30 to 150 acres, 114 miles of open channels, and 73 miles of storm drains.

The estimated cost of the Plan, including acquisition of necessary rights of way is:

Basins	\$222,018,617.80
Channels	233,690,688.00
<u>Storm Drains</u>	<u>95,316,540.00</u>
Total Cost	\$551,025,845.80

Section V.D on pages 8 and 9 of the Plan is hereby amended to read as follows:

Future development in the Antelope Valley will increase storm runoff and will contribute to the need for management of storm runoff. Without the comprehensive plan, the threat of flood damage could impede the approval of additional development due to the health and safety risks involved. In order to ensure the equitable involvement of the private sector in financing the drainage facilities attributable to future development in the unincorporated County territory, the proposed drainage fee is based on the extent future development occurs in the unincorporated County territory and either benefits from construction of the drainage facilities funded by the comprehensive plan or contributes to the need for the comprehensive plan.

The cost of that portion of the comprehensive plan attributable to future development in the unincorporated areas of the Antelope Valley is determined as follows:

Total cost of plan attributable to future development	\$551,025,845.80
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The benefits realized by existing entities and development will be funded from local and Federal sources, such as the Cities of Lancaster and Palmdale, the City of Los Angeles Department of Airports, Edwards Air Force Base, U.S.A.F. Plan 42, and the County of Los Angeles.

The three categories used in calculating the drainage fee are related to intensity of land use and the proportionate contribution to the increase in runoff. These categories are single-family development, multifamily development, and commercial/industrial development. A multifamily development contributes approximately one-half as much runoff as a single-family development, and one acre of commercial/industrial development contributes runoff approximately equivalent to five single-family units on the same acre.

It is anticipated that future divisions of land within the Antelope Valley Drainage Area will create approximately 54,087 single-family lots, 5,207 multifamily dwelling units, and 6,333 acres of commercial development. These divisions were calculated by the County of Los Angeles Department of Public Works based on data in the Department of Regional Planning's Zoning Ordinance Summary and current and projected development trends.

An equation can be written to calculate the drainage fee based on the cost of the plan attributable to future development, the relative contribution of runoff from each category of land use, and anticipated future divisions of land.

SFDF = Single-family drainage fee

MFDF = Multifamily drainage fee =  $\frac{1}{2}$  SFDF

CDDF = Commercial/Industrial development drainage fee = 5 SFDF

Anticipated Future Development X Drainage Fee per Development = Cost of the Project Attributable to Future Development.

$$(54,087 \text{ units}) (\text{SFDF}) + (5,207 \text{ units}) (1/2 \text{ SFDF}) + (6,333 \text{ acres}) (5\text{SFDF}) = \\ \$551,025,845.80$$

$$(88,356 \text{ SFDF}) = \$551,025,845.80$$

$$\text{SFDF} = \$ 6,237$$

Therefore, the proposed drainage fee is:

Single-family Unit	\$ 6,300*
Multifamily Unit	\$ 3,200*
Acre Commercial/	\$31,200*
Industrial Land	

\* Figures are rounded up per the Los Angeles County Auditor-Controller.

Section V. E., commencing on page 9 of the Plan is hereby amended to read as follows:

Development of the land located within the Antelope Valley Drainage Area is not constant nor is the cost of construction. Therefore, in order to equitably assess future development as well as collect sufficient funds to construct those facilities attributable to future development, it is necessary to periodically evaluate the Construction Cost Index and the type and amount of development being constructed within the Antelope Valley Drainage Area. With this information, the drainage fee may be increased or decreased as appropriate.

Additionally, beginning on July 1, 2007, and thereafter on July 1 of each succeeding year, the fees set forth herein shall be reviewed by the Director of Public Works and the amount of each fee shall be adjusted as follows: calculate the percentage movement between March of the previous year and March of the current year in the Construction Cost Index for all urban construction in the Los Angeles area, as published by the Engineering News Record statistics, and adjust each fee by said percentage amount and round up to the nearest dollar. No adjustment shall decrease any fee. The foregoing notwithstanding, the fees set forth herein shall not exceed the estimated reasonable cost of providing the services and facilities described in this Plan. If it is determined that the reasonable amount necessary to recover the costs of providing the services and facilities described in this Plan exceeds this adjustment, the Director of Public Works may present fee proposals to the Board of Supervisors for approval.

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COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS

By D. Calfee  
Deputy

APPROVED AS TO FORM:

RAYMOND G. FORTNER, JR.  
County Counsel

By M. Yanai  
Mark Yanai  
Principal Deputy County Counsel

Date 8-29-06

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**REVENUE AND EXPENDITURE COMPARISON**  
**FY 2002-03 THROUGH FY 2004-05**

Description	FY 2002-03	FY 2003-04	FY 2004-05	Total
<b>Revenues<sup>(1)</sup>:</b>				
Revenue Source 8322 - Excavation Permit-Act Cost	0.00	535.01	0.00	535.01
Revenue Source 8605 - Interest from Treasury Pool Deposits	10,880.59	7,741.09	17,111.21	35,732.89
Revenue Source 9358 - Road Maint. Services	0.00	0.00	11,732.03	11,732.03
Revenue Source 9360 - Contract Cities - Traffic Control	0.00	1,678.93	0.00	1,678.93
Revenue Source 9883 - Developer Fees	136,000.00	214,000.00	59,500.00	409,500.00
<b>Total</b>	<b>146,880.59</b>	<b>223,955.03</b>	<b>88,343.24</b>	<b>459,178.86</b>
<b>Expenditures<sup>(2)</sup>:</b>				
C6140367 - Exc - Jando Drive 1690	0.00	535.01	0.00	535.01
H0300167 - M&R Rainga Sta N of FCD Boundary	9,011.37	6,963.53	6,047.03	22,021.93
T91034000 - Signal Plan Review - JAS	127.00	0.00	0.00	127.00
E0389504 - Ant Valley Mstr Pln Study-N	0.00	765.86	1,011.81	1,777.67
F3053580 - Slurry Squirrel Holes	0.00	805.52	0.00	805.52
H0300205 - Public Safe N of FCD Boundary	0.00	89.75	0.00	89.75
R9LCF13722 - 13722 Curb/Walk Perm. Repairs 04/05	0.00	0.00	0.01	0.01
<b>Total</b>	<b>9,138.37</b>	<b>9,159.67</b>	<b>7,058.85</b>	<b>25,356.89</b>
<b>Over/(Under) Recovered</b>	<b>137,742.22</b>	<b>214,795.36</b>	<b>81,284.39</b>	<b>433,821.97</b>
<b>Percentage of Expenditure Over/(Under) Recovered<sup>(3)</sup></b>	<b>1507.30%</b>	<b>2345.01%</b>	<b>1151.52%</b>	<b>1710.86%</b>

Footnotes:

(1) Revenue data was acquired from Fund 106 Antelope Valley Drainage Fee - V42 by Revenue Source from the Revenue Financial Analysis Inquiry window in the Financial Accounting System (FAS).

(2) Expenditure data was acquired from Fund 106 Antelope Valley Drainage Fee - V42 by PCA from the Expenditure Financial Analysis Inquiry window in FAS.

(3) The Percentage of Expenditure Over/(Under) Recovered was computed by dividing the amount of Over/(Under) Recovered by the Total Expenditures.

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY DRAINAGE FEES ESTIMATE**  
**FISCAL YEAR 2005-06**

Infrastructure Type	Miles or Each <sup>(1)</sup>	B=A*5,280	C	D=B*C	E=D*25%	F=D+E
Open Channel	32	168,960	\$ 1,106.49	\$ 186,952,550.40	\$ 46,738,137.60	\$ 233,690,688.00
Closed Conduit	22	116,160	\$ 656.45	\$ 76,253,232.00	\$ 19,063,308.00	\$ 95,316,540.00
Detention/Retention Basin	8	\$ 22,201,861.78	\$ 177,614,894.24	\$ 44,403,723.56	\$ 222,018,617.80	
<b>Total</b>			<b>\$ 440,820,876.64</b>	<b>\$ 110,205,169.16</b>	<b>\$ 551,025,845.80</b>	

Type of Lot	Number of Units <sup>(4)</sup>	Single-Family Drainage Fee Equivalent	Total Number of Single-Family Drainage Fee Units (SFDFU)	Total Number of Single-Family Drainage Fee Units
Single-Family	54,087	1.00	54,087	54,087
Multi-Family	5,207	0.50	2,603	2,604
Commercial/Industrial	6,333	5.00	31,664	31,665
<b>Total</b>	<b>65,627</b>		<b>88,355</b>	<b>88,356</b>

**Single-Family Drainage Fee = Total Infrastructure Cost / Total Number of SFDFU**      **\$6,236.43**

**Multi-Family Drainage Fee = 1/2 Single-Family Drainage Fee**      **\$3,118.21**

**Commercial/Industrial Development Drainage Fee = 5 \* Single Family Drainage Fee**      **\$31,182.14**

<b>Proposed Single-Family (Residential) Drainage Fee Per Lot</b>	<b>\$6,237</b>
<b>Proposed Multi-Family Drainage Fee Per Lot</b>	<b>\$3,119</b>
<b>Proposed Commercial/Industrial Development Drainage Fee Per Acre</b>	<b>\$31,183</b>

**Footnotes:**

- (1) Mapping and Property Management Division produced a digital version of the 1987 Antelope Valley Drainage Study map to determine the amount of open channel, closed conduit, and detention/retention basins required within the unincorporated portions of the Antelope Valley (32 miles of open channel, 22 miles of closed conduit, and 8 detention/retention basins).
- (2) There are 5,280 linear feet in 1 mile.
- (3) See Schedules 3-5 for the calculation of unit costs of open channel, closed conduit, and detention/retention basin, respectively.
- (4) See Schedule 6 for the total number of potential residential lots, multi-family lots, and commercial/industrial acreage available within the unincorporated areas of the region.

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY 12'FOOT WIDE BY 8'FOOT HIGH OPEN CHANNEL COST ESTIMATE**  
**FISCAL YEAR 2005-06**

Item Description <sup>(1)</sup>	Quantity	Unit Cost	Unit of Measure	Extension	Total Cost
1 Construction Schedule <sup>(1)</sup>	10	\$ 1,575.91	Man Total Hour	\$ 15,759.10	
2 Implementation of Best Management Practices (BMPs) <sup>(1)</sup>	100%	\$ 13,319.81	Lump Sum	\$ 13,319.81	
3 Storm Water Pollution Prevention Plan <sup>(1)</sup>	100%	\$ 11,717.35	Lump Sum	\$ 11,717.35	
4 Restoration of Existing Improvements <sup>(1)</sup>	100%	\$ 45,070.42	Lump Sum	\$ 45,070.42	
5 Shoring of Open Excavations <sup>(2)</sup>	25.520	\$ 35.38	Cubic Yard	\$ 902,897.60	
6 Office Facilities <sup>(1)</sup>	100%	\$ 15,466.70	Lump Sum	\$ 15,466.70	
7 Mobilization <sup>(1)</sup>	100%	\$ 167,499.22	Lump Sum	\$ 167,499.22	
8 Structure Excavation <sup>(1 &amp; 3)</sup>	24.341	\$ 14.26	Cubic Yard	\$ 347,102.66	
9 Asphalt Concrete Pavement <sup>(1 &amp; 4)</sup>	1,569	\$ 100.00	Ton	\$ 156,900.00	
10 Crushed Aggregate Base <sup>(1 &amp; 5)</sup>	1,174	\$ 90.00	Cubic Yard	\$ 105,660.00	
11 12'-0" W x 8'-0" H Rectangular Channel, Sect 1 <sup>(6)</sup>	5,280	\$ 572.59	Linear Foot	\$ 3,023,275.20	
12 Chain Link Right of Way Fence, 5' High <sup>(7)</sup>	10,560	\$ 13.40	Linear Foot	\$ 141,504.00	
13 Chain Link Channel Wall Fence, 5' High <sup>(8)</sup>	10,560	\$ 12.42	Linear Foot	\$ 131,155.20	
14 4' High Walk Gate <sup>(1)</sup>	2	\$ 425.53	Each	\$ 851.06	
15 12' Double-Drive Gate <sup>(1)</sup>	2	\$ 1,034.28	Each	\$ 2,068.56	
<b>Total cost estimate based on one-mile stretch</b>					<b>\$ 5,080,246.88</b>
<b>Plus 15% contingency</b>					<b>\$ 762,037.03</b>
<b>Total cost estimate based on one-mile stretch plus 15% contingency</b>					<b>(a) \$ 5,842,283.91</b>
<b>Estimated cost per linear foot = (a) / 5,280</b>					<b>\$ 1,106.49</b>

Notes:

(A) Mike Hong, Civil Engineer of Design Division, provided the items needed to construct the open channel.

(B) The following assumptions were made in the calculation of 12' x 8' typical rectangular channel cost per linear foot:

General slope = 1%

32 miles of open channel with 1% slope capacity

Flow of water is 1,590 cubic foot per second

No utility interference

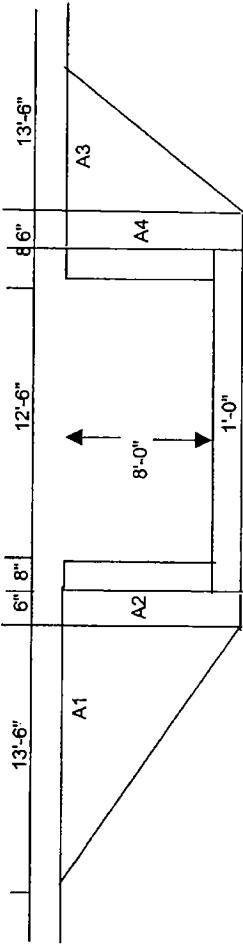
No groundwater or health & safety issues included in this estimate

DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY 12-FOOT WIDE BY 8-FOOT HIGH OPEN CHANNEL COST ESTIMATE**  
**FISCAL YEAR 2005-06**

Footnotes:

- (1) See Attachment 10 for the unit costs of Construction Schedule, Implementation of BMPs, Stormwater Pollution Prevention plan, Restoration of Existing Improvements, Office Facilities, Mobilization, Structure Excavation, AC Pavement, Crushed Aggregate Base, Chain Link ROW Fence, Chain Link Channel Wall Fences, 4' High Walk Gate, and 12' Double-Drive Gate.

- (2) See figure below for the calculation of total cubic yards for Shoring of Open Excavation:



Area of A1 =  $(13.5 \times 9) \times 1/2 = 60.75$  square feet

Area of A2 =  $(0.5 \times 9)^2 = 4.50$  square feet

Total area of A1 and A2 =  $60.75 + 4.50 = 65.25$  square feet

Total area of A1, A2, A3, and A4 =  $65.25 \times 2$  square feet =  $130.50$  square feet

(There are 27 cubic feet in 1 cubic yard)

**Total cubic yards =  $(130.50 \text{ square feet} \times 5,280 \text{ feet}) / 27 \text{ feet} = 25,520.00$**

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY 12-FOOT WIDE BY 8-FOOT HIGH OPEN CHANNEL COST ESTIMATE**  
**FISCAL YEAR 2005-06**

Unit cost of the Shoring of Open Excavation was based on the average item bid of the Little Dalton Debris Dam Seismic Modifications project:

Item Description	Engineer's Estimate	Low Bidder Item Bid	Average Item Bid	CCI Adjustment Factor	CCI Adjusted Item Bid
Structure Excavation	\$ 10.00	\$ 10.00	\$ 31.87	1.11	\$ 35.38

Bid Date	Feb-04	(a)
Construction Cost Index (CCI) for Los Angeles for February 2004	7690.52	(b)
CCI for Los Angeles for June 2006	8546.72	(c)
Adjustment Factor	1.11	(d) = c / b

(3) Total cubic yards for structure excavation:

$$\text{Width} = 8'' + 12' 6'' + 8'' = 13.83'; \text{ Depth} = 8' + 1'$$

$$\text{Total cubic yards} = (13.83 \text{ feet} * 9 \text{ feet} * 5,280 \text{ feet}) / 27 = 24,340.80/\text{mile}$$

(4) Asphalt: Concrete Pavement is assumed to be 4 inches thick and 12 feet wide.

$$\text{Total cubic feet for 1 mile of asphalt concrete pavement} = (0.33 \text{ foot} * 12 \text{ feet} * 5,280 \text{ feet}) = 20,908.80.$$

One cubic foot of asphalt concrete pavement requires 150 pounds of concrete.  
 (There are 2,000 pounds in 1 ton).

$$\text{Total tonnage of concrete required for 1 mile of asphalt concrete pavement} = (20,908.80 \text{ cubic feet} * 150 \text{ pounds}) / 2,000 = 1,568.16$$

(5) Crushed Aggregate Base (CAB) is assumed to be 6 inches thick and 12 feet wide.

$$\text{Total cubic yards for 1 mile of CAB} = (0.50 \text{ foot} * 12 \text{ feet} * 5,280 \text{ feet}) / 27 = 1,173.33$$

DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY 12-FOOT WIDE BY 8-FOOT HIGH OPEN CHANNEL COST ESTIMATE  
FISCAL YEAR 2005-06

(6) See Attachment 9 for Rectangular Channel cost.

[7] Total linear feet for chain link right of way fence = 5,280 \*2 = 10,560

[8] Total linear feet for chain link channel fence wall = 5,280 \*2 = 10,560

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY CLOSED CONDUIT COST ESTIMATE  
FISCAL YEAR 2005-06**

<b>Item Description</b>	<b>Quantity</b>	<b>Unit Cost</b>	<b>Unit of Measure</b>	<b>Extension</b>	<b>Total Cost</b>
1 Construction Schedule (1)	5	\$ 1,575.91	Man Total Hour	\$ 7,879.55	
2 Implementation of Best Management Practices (1)	100%	\$ 13,319.81	Lump Sum	\$ 13,319.81	
3 Storm Water Pollution Prevention Plan (1)	100%	\$ 11,717.35	Lump Sum	\$ 11,717.35	
4 Restoration of Existing Improvements (1)	100%	\$ 45,070.42	Lump Sum	\$ 45,070.42	
5 Shoring of Open Excavations (2)	5.280	\$ 61.48	Linear Foot	\$ 324,614.40	
6 Office Facilities (1)	100%	\$ 15,466.70	Lump Sum	\$ 15,466.70	
7 Mobilization (1)	100%	\$ 167,499.22	Lump Sum	\$ 167,499.22	
8 Asphalt Concrete Pavement (1 & 3)	1,177	\$ 100.00	Ton	\$ 117,700.00	
9 Crushed Aggregate Base (1 & 4)	880	\$ 90.00	Cubic Yard	\$ 79,200.00	
10 72" Reinforced Concrete Pipe (RCP), 1350D (5)	5,236	\$ 395.92	Linear Foot	\$ 2,073,037.12	
11 Catch Basin System (6)	100%	\$ 111,168.88	Lump Sum	\$ 111,168.88	
12 Manhole Per Standard Plan 321 (1)	11	\$ 4,301.00	Each	\$ 47,311.00	
<b>Total cost estimate based on one mile stretch</b>					<b>\$ 3,013,984.45</b>
<b>Plus 15% contingency</b>					<b>\$ 452,097.67</b>
<b>Total cost estimate based on one mile stretch plus 15% contingency</b>				<b>(a)</b>	<b>\$ 3,466,082.12</b>
<b>Estimated cost per linear foot = (a) / 5,280</b>					<b>656.45</b>

Notes:

(A) Design Division provided the items needed to construct the open channel.

(B) The following assumptions were made in the calculation of the cost of a one-mile stretch of storm drain:

Slope used for Hydraulic Calculation ~ 1%

Flow of water is 450 cubic feet per second based on 1% slope and project is 22 miles long

No compacted fill; minor clearing and grubbing

Permanent resurfacing to be 4" Asphalt Concrete on 6" Crushed Aggregate Base

No utility interference

No right-of-way cost; no right-of-way fences

No groundwater encountered; no contaminated soil encountered

Footnotes:

- (1) See Attachment 10 for the unit costs of Construction Schedule, Implementation of BMPs, Stormwater Pollution Prevention plan, Restoration of Existing Improvements, Office Facilities, Mobilization, AC Pavement, and Crushed Aggregate Base.
- (2) See Attachment 8 for the unit cost of shoring per linear foot.

- (3) Asphalt concrete pavement is assumed 4 inches thick and 9' feet wide.  
 Total cubic feet for 1 mile of asphalt concrete pavement = (0.33 foot \* 9 feet \* 5,280 feet) = 15,681.60  
 One cubic foot of asphalt concrete pavement requires 150 pounds of concrete.

<b>Total tonnage of concrete required for 1 mile of asphalt concrete pavement = (15,681.60 cubic feet * 150 pounds) / 2,000 = 1,176.12</b>
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**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY CLOSED CONDUIT COST ESTIMATE  
FISCAL YEAR 2005-06**

(4) Crushed Aggregate Base (CAB) is assumed 6 inches thick and 9 feet wide.

**Total cubic yards for 1 mile of CAB = (0.50 foot \* 9 feet \* 5,280 feet) / 27 = 380.00**

(5) See Attachment 7 for the cost of 72" RCP per linear foot.

(6) See Attachment 10 for the unit costs of Catch Basin Screen, Manhole per Std Plan 322, Junction Structure, 18" RCP, 21" RCP and 42" RCP which are the components of the Catch Basin System.

Item Description	Quantity	Unit Cost	Unit of Measure	Extension	Total Cost
Catch Basin Screen	6	\$ 5,061.10	Each	\$30,366.60	
Manhole per Standard Plan 322	2	\$ 7,039.10	Each	14,078.20	
Junction Structure	4	\$ 1,391.02	Each	5,564.08	
18" Reinforced Concrete Pipe	100	\$ 109.19	Linear Foot	10,919.00	
21" Reinforced Concrete Pipe	200	\$ 109.92	Linear Foot	21,984.00	
42" Reinforced Concrete Pipe	150	\$ 188.38	Linear Foot	28,257.00	
<b>Total</b>					<b>\$111,168.88</b>

(7) Unit cost of the Manhole per Std. Plan 321 was based on the low bidder item bid of the Ninth Avenue Drain.

Item Description	Engineer's Estimate	Low Bidder Item Bid	Average Item Bid	CCI Adjustment Factor	CCI Adjusted Item Bid
Manhole per Std. Plan 321	\$ 3,738.00	\$ 3,970.00	\$ 3,686.00	1.10	\$ 4,301.00

Bid Date of Ninth Avenue Drain  
 CCI for Los Angeles for May 2004  
 CCI for Los Angeles for June 2006  
 Adjustment Factor  
 (a)  
 (b)  
 (c)  
 (d) = c / b

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY DETENTION/RETENTION BASIN COST ESTIMATE**  
**FISCAL YEAR 2005-06**

**A Right-of-Way Acquisition Cost<sup>(1)</sup>**

Item Description	Quantity	Unit of Measure	Unit Cost	Extension	Total Cost
Area Required Per Basin	50 Acre		\$ 55,000.00	\$ 2,750,000.00	\$ 2,750,000.00

**B Excavation Cost<sup>(2)</sup>**

Item Description	Volume (cubic feet)	Volume (cubic yd)	Cost per Cubic Yard	Extension	Total Cost
Excavation Cost For Basin With Dimension =20' x 1,800' x 800'	25,800,000	1,066,666.67	\$ 11.83	\$ 12,618,666.67	\$ 12,618,666.67

**C Infrastructure Costs<sup>(3)</sup>**

Item Description	Quantity	Unit of Measure	Unit Cost	Extension	Total Cost
Access Road/Ramp <sup>(a)</sup>	5,126 Ton		\$ 100.00	\$ 512,600.00	
Perimeter Wall <sup>(b)</sup>	36,000 Square foot		\$ 52.37	\$ 1,885,320.00	
Associated Piping, Valves, Pumping <sup>(c)</sup>	1,000 Linear foot		\$ 656.45	\$ 656,450.00	
Landscaping <sup>(d)</sup>	1 Lump Sum		\$ 380,236.98	\$ 380,236.98	
Irrigation <sup>(e)</sup>	1 Lump Sum		\$ 241,740.07	\$ 241,740.07	

**D Other Costs<sup>(4)</sup>**

Item Description	Quantity	Unit of Measure	Unit Cost	Extension	Total Cost
Construction Schedule	5 Man Total Hours		\$ 1,575.91	\$ 7,879.55	
Implementation of Best Management Practices	100% Lump Sum		\$ 13,319.81	\$ 13,319.81	
Storm Water Pollution Prevention Plan	100% Lump Sum		\$ 11,717.35	\$ 11,717.35	
Restoration of Existing Improvements	100% Lump Sum		\$ 45,070.42	\$ 45,070.42	
Office Facility	100% Lump Sum		\$ 15,466.70	\$ 15,466.70	
Mobilization	100% Lump Sum		\$ 167,499.22	\$ 167,499.22	

**Total estimated cost for one detention/retention basin****Plus 15% contingency****Total estimated cost for one detention/retention basin plus 15% contingency**

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY DETENTION/RETENTION BASIN COST ESTIMATE**  
**FISCAL YEAR 2005-06**

**Footnotes:**

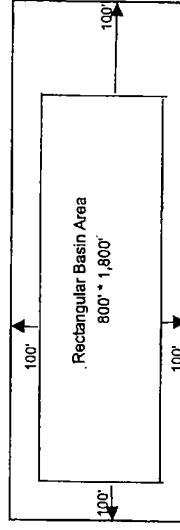
(1) A search in the Palmdale/Lancaster area for open land plots of at least 40 acres in size produced a high-end cost of \$55,000/acre. Geologic conditions and drainage needs constrain the location of the right-of-way acquisitions.

(2) Excavation cost is for a basin in which depth = 20 feet, length = 1,800 feet, and width = 800 feet. Volume Removed = Basin Length\*Basin Width\*Basin Depth. The excavation unit cost is based on the average item bid for Vernon Channel - Fieldbrook Debris Basin adjusted with Engineering News Record's (ENR's) Construction Cost Index (CCI) for Los Angeles for June 2006. Shown below is the calculation of excavation unit cost:

Bid date	May 2001	(a)
ENR's CCI for Los Angeles for December 2001 (s) =	7226.92	(b)
ENR's CCI for Los Angeles for June 2006 =	8546.72	(c)
Engineer's Estimate for unclassified excavation cost per cubic yard =	\$0.00	
Low Bidder Item Bid for unclassified excavation cost per cubic yard (e) =	\$10.00	(d)
Average Item Bid for unclassified excavation cost per cubic yard =	\$8.35	
Adjustment Factor =	1.18	(e) = c / b
<b>CCI adjusted item bid for unclassified excavation cost per cubic yard =</b>	<b>\$11.83</b>	<b>(f) = d * e</b>

(3) The following assumptions are used in the calculation for various infrastructure costs:

- (a) The access roads within the 2,000 foot by 1,000 foot basin are assumed to be 6 inches thick and 20 feet wide and the access ramp is assumed at 200 \* 100 square feet. See Attachment 10 for the unit cost of the AC Pavement.



Total cubic feet for the access roads and ramp =  $((12,000' * 20') + (2,000' * 20') + (960' * 20') + (960' * 20')) * 0.5' = 69,200$   
 Total cubic yards for the access roads and ramp =  $69,200 / 27 = 2,563$

**Total tonnage of asphalt concrete needed = 5,126**

- \* One cubic yard requires 2 tons of asphalt concrete

DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY DETENTION/RETENTION BASIN COST ESTIMATE  
FISCAL YEAR 2005-06

Footnotes:

(b) The perimeter wall unit cost is based on the average item bid for 128th Street, et al., adjusted with Engineering News Record's (ENR's) Construction Cost Index (CCI) for Los Angeles for June 2006. Shown below is the calculation of the perimeter wall unit cost:

Bid date	April 2002	(a)
CCI for Los Angeles for December 2002 <sup>(5)</sup> =	7402.75	(b)
CCI for Los Angeles for June 2006 =	8546.72	(c)
Engineer's Estimate for unclassified perimeter wall per square foot =	\$8.00	
Low Bidder Item Bid for unclassified perimeter wall per square foot =	\$14.00	(d)
Average Item Bid for unclassified perimeter wall per square foot <sup>(6)</sup> =	\$45.36	
Adjustment Factor =	1.15	(e) = c / b

Adjusted average item bid for unclassified excavation cost per cubic yard = **\$52.37**

The wall around the basin is assumed to be a height of 6 feet.

Total area for the perimeter wall (square feet)  $((2,000' * 2' + 1,000' * 2')) * 6'$

**Total area for the perimeter wall (square feet) = 36,000**

(c) A basin with dimension of 1,000 by 2,000 feet will require 1,000 feet of pipe to bring water in and out of the basin. Unit cost @ \$657.01 is the weighted average item bids of the following six projects adjusted with CCI for Los Angeles for June 2006. See Attachment 4 for the calculation of unit cost.

Fairplex Drain  
Ward Channel Invert and Connector Pipe Repairs  
Altadena System Lincoln Debris Basin Enlargement  
Beverly Pico Drain, Unit 2  
Vernon Channel - Fieldbrook Debris Basin  
Busby Drain and Cash Contract 7643

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY DETENTION/RETENTION BASIN COST ESTIMATE**  
**FISCAL YEAR 2005-06**

(d) Average item bid of \$377,500 for Paseo del Rio San Gabriel Coastal Basin Spreading Grounds, Phase 2, Multiuse Improvement adjusted with CCI for Los Angeles for June 2006 is used because it is similar to the size of the proposed basin. Shown below is the calculation of the adjusted landscaping cost:

Bid Date					
CCI for Los Angeles for September 2005 =				September 2005	(a)
CCI for Los Angeles for June 2006 =				\$485.20	(b)
Engineer's Estimate for landscaping =				8546.72	(c)
Low Bidder Item Bid for landscaping =				\$257,780	(d)
Average Item Bid for landscaping <sup>(e)</sup> =				\$325,000	
Adjustment Factor =				1.01	(e) = c / b
<b>Adjusted average item bid for landscaping =</b>				<b>\$380,236.98</b>	(f) = d * e

Footnotes:

(e) Average item bid of \$240,000 for Paseo del Rio San Gabriel Coastal Basin Spreading Grounds, Phase 2, Multiuse Improvement adjusted with ENR's CCI for Los Angeles for June 2006 is used because it is similar to the size of the proposed basin. Shown below is the calculation of the adjusted irrigation cost:

Bid Date					
CCI for Los Angeles for September 2005 =				September 2005	(a)
CCI for Los Angeles for June 2006 =				\$485.20	(b)
Engineer's Estimate for irrigation =				8546.72	(c)
Low Bidder Item Bid for irrigation =				\$156,612	(d)
Average Item Bid for irrigation <sup>(e)</sup> =				\$225,000	
Adjustment Factor =				\$240,000	
<b>Adjusted average item bid for irrigation =</b>				<b>\$241,740.07</b>	(f) = d * e

(4) See Attachment 10 for the unit costs of Construction Schedule, Implementation of BMPs, Stormwater Pollution Plan, Restoration of Existing Improvement, Office Facilities, and Mobilization.

(5) Used ENR published CCI for Los Angeles to adjust the base price. ENR traditionally published the CCI in December on a year-to-year basis. Due to significant increased construction costs in recent years, ENR began publishing CCI on a month-to-month basis beginning January 2004. CCI for December will be used for projects with a bid date prior to 2004.

(6) Antelope Valley is a region in which various assumptions are required at this stage, including the location, size, and costs of various drainage needs for future developments. The greatest amount among the Engineer's Estimate, Low Bidder Item Bid, and Low Bidder Item Bid was used as the base price to determine the CCI adjusted unit cost.

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION**

**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY COMPREHENSIVE PLAN**

**TOTAL AMOUNT OF POTENTIAL RESIDENTIAL LOTS,  
MULTI-FAMILY LOTS, AND COMMERCIAL/INDUSTRIAL ACREAGE  
WITHIN THE UNINCORPORATED AREAS**

**FISCAL YEAR 2005-06**

**RESIDENTIAL (1)**

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY COMPREHENSIVE PLAN  
TOTAL AMOUNT OF POTENTIAL RESIDENTIAL LOTS,  
MULTI-FAMILY LOTS, AND COMMERCIAL/INDUSTRIAL ACREAGE  
WITHIN THE UNINCORPORATED AREAS  
FISCAL YEAR 2005-06**

**MULTI-FAMILY (RESIDENTIAL) UNITS (1)**

NUMBER	ZONE	Sum_AREA (ft <sup>2</sup> )	Sum_AREA (acre)	Min_Z_DESC	Permitted Uses	MIN	SA_MIN (ft <sup>2</sup> /ft <sup>2</sup> )	(E)	(F) = A / E
								(B) = A / 43,560	(C)
27	R-3	3,836,498	88	Limited multiple residence	Apartment Houses	1,450	2,645		
28	R-3-20U	3,131,608	72	Limited multiple residence	Apartment Houses	1,450	2,159		
29	R-3-P	517,589	12	Limited multiple residence	Apartment Houses	1,450	356		
60	R-2	6,318	0	Two-family residence	Duplex	2,500	2		
61	R-2-15000	191,273	4	Two-family residence	Duplex	15,000	12		
62	R-2-20000	668,478	15	Two-family residence	Duplex	20,000	33		
<b>Multi-Family Units</b>									
<b>Totals (ft<sup>2</sup>)</b>		<b>8,351,763</b>							
<b>Totals (acre)</b>		<b>192</b>							
<b>Totals (mi<sup>2</sup>)</b>		<b>0.30</b>							
								<b>5,207</b>	<b>5,207</b>

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN**  
**TOTAL AMOUNT OF POTENTIAL RESIDENTIAL LOTS,**  
**MULTI-FAMILY LOTS, AND COMMERCIAL/INDUSTRIAL ACREAGE**  
**WITHIN THE UNINCORPORATED AREAS**  
**FISCAL YEAR 2005-06**

**COMMERCIAL/INDUSTRIAL<sup>(1)</sup>**

<b>NUMBER</b>	<b>ZONE</b>	<b>Sum AREA (ft<sup>2</sup>)</b>	<b>Sum AREA (acres)</b>	<b>Min Z_DESC</b>	<b>Permitted Uses</b>	<b>MIN</b>	<b>SA MIN (ft<sup>2</sup>/ft<sup>2</sup>)</b>	<b>(F) = A / E</b>
2 C-H		466,698	11	Commercial highway		1	466,698	
3 CPD		473,136	11	Commercial planned development		5,000		94
4 C-R		14,010,178	322	Commercial recreation		217,800		64
13 M-2		29,251,291	672	Heavy manufacturing		1	29,251,291	
14 M-2-DP		722,392	17	Heavy manufacturing		1	722,392	
15 M-2.5		73,530,145	1,688	Heavy manufacturing		1	73,530,145	
25 M-1		9,778,818	224	Light manufacturing		1	9,778,818	
26 M-1-DP		198,206	5	Light manufacturing		1	198,206	
30 C-2		3,364,280	77	Neighborhood commercial		1	3,364,280	
31 C-2-DP		1,376,720	32	Neighborhood commercial		1	1,376,720	
51 C-1		797,112	18	Restricted business		1	797,112	
52 C-1-DP		51,011	1	Restricted business		1	51,011	
53 M-1.5		121,101,693	2,780	Restricted heavy manufacturing		1	121,101,693	
63 C-3		20,099,994	461	Unlimited commercial		1	20,099,994	
64 C-3-DP		244,182	6	Unlimited commercial		1	244,182	
65 C-3-U/C		398,382	9	Unlimited commercial		1	398,382	
<b>Commercial/Industrial</b>								
<b>Totals (ft<sup>2</sup>)</b>		<b>275,864,236</b>						
<b>Totals (acre)</b>		<b>6,333</b>						
<b>Totals (miles<sup>2</sup>)</b>		<b>10</b>						

Footnote:

- (1) Mapping and Property Management Division produced a digital version of the 1987 Antelope Valley Drainage Study map and used the County of Los Angeles Department of Regional Planning's Zoning Ordinance Summary to develop the above tables depicting undeveloped unincorporated area and the planned zoning for residential lots, multi-family lots, and commercial/industrial acreage.

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY 72" INCH REINFORCED CONCRETE PIPE ESTIMATE  
FISCAL YEAR 2005-06**

Construction Cost Index (CCI) Adjusted Item Bid Calculation

Project Name	Description	Trench Depth (ft)	Length	Engineer's Estimate	Low Bidder Item Bid	Average Item Bid	Bid Date	Dec-01	Dec-02	Dec-03	Jun-04	Construction Cost Index (2)	(I)	(J) = I / H	(K) = Greatest of D or E or F
Fairplex Drain	72" RCP, 1450 D	16.00	455.00	\$ 398.00	\$ 250.00	\$ 381.25	Jun-04				\$ 8546.72	1.09	\$ 433.66		
Ward Channel Invert & Connector Pipe Repairs	72" RCP, 0800 D	10.50	16.00	\$ 525.00	\$ 2,045.00	\$ 965.00	Apr-03				\$ 8546.72	1.13	\$ 2,320.51		
Altadena System Lincoln Debris Basin Enlargement	72" RCP, 2000 D	16.00	157.00	\$ 290.00	\$ 165.00	\$ 298.95	Apr-02				\$ 8546.72	1.15	\$ 345.21		
Beverly Pico Drain, Unit 2	72" RCP, 0850 D	8.00	1,614.00	\$ -	\$ 224.97	\$ 288.10	Jun-01				\$ 8546.72	1.18	\$ 340.71		
Vernon Channel - Fieldbrook Debris Basin	72" RCP, 1550 D	22.00	84.00	\$ -	\$ 250.00	\$ 349.00	May-01				\$ 8546.72	1.18	\$ 412.74		
Burbank Drain & Catch Contract 7643	72" RCP, 1400 D	20.00	726.00	\$ -	\$ 295.00	\$ 347.08	Jun-01				\$ 8546.72	1.18	\$ 410.46		

Weighted Average (CCI) Adjusted Item Bid Calculation

Project Name	Description	Trench Depth	Length	Unit of Measure	Trench Depth * Length	Adjusted Item Bid	(G) = E/F	(H) = G/E
Fairplex Drain	72" RCP, 1450 D	10.50	455.00	Linear Foot	7,280.00	\$ 433.66	\$ 3,157,073.17	
Ward Channel Invert & Connector Pipe Repairs	72" RCP, 0800 D	16.00	16.00	Linear Foot	168.00	\$ 3,320.58	\$ 389,056.72	
Altadena System Lincoln Debris Basin Enlargement	72" RCP, 2000 D	16.00	157.00	Linear Foot	2,512.00	\$ 345.21	\$ 867,155.97	
Beverly Pico Drain, Unit 2	72" RCP, 0850 D	8.00	1,614.00	Linear Foot	12,912.00	\$ 340.71	\$ 4,393,344.19	
Vernon Channel - Fieldbrook Debris Basin	72" RCP, 1550 D	22.00	84.00	Linear Foot	1,848.00	\$ 412.74	\$ 762,734.91	
Burbank Drain & Catch Contract 7643	72" RCP, 1400 D	20.00	726.00	Linear Foot	14,520.00	\$ 410.46	\$ 5,959,347.50	
<b>Total</b>					<b>35,240.00</b>	<b>\$ 15,235,062.45</b>	<b>\$ 395.92</b>	

## Assumptions:

- (1) Trench depth determined by "Land Table" per Los Angeles County Flood Control District "Structural Design Manual" DWG No. 2-D213.3.
- (2) Used ENR traditionally published CCI for Los Angeles to adjust the base price. ENR traditionally published the CCI in December on a year-to-year basis.
- (3) Due to significant increased construction costs in recent years, ENR began publishing CCI on a month-to-month basis beginning January 2004.

CCI for December will be used for projects with a bid date prior to 2004.

The Antelope Valley region requires various assumptions as to the location, size, and costs of drainage needs associated with future developments.

The greatest amount among the Engineer's Estimate, Low Bidder Item Bid, and High Bidder Item Bid was used as the base price to determine 72" RCP cost.

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY SHORING COST ESTIMATE  
FISCAL YEAR 2005-06**

Project Name	Description	Trench Depth (t)	Length	Unit of Measure	Trench Depth * Length	Trench Depth * Length * 2
(A)	(B)	(C)	(D)	(E) = B*C	(F) = 2*E	
Fairplex Drain	24" RCP, 2000 D	11.00	511.00	Linear Foot	5,621.00	11,242.00
Fairplex Drain	18" RCP, 2000 D	10.50	111.00	Linear Foot	1,165.50	2,331.00
Fairplex Drain	36" RCP, 2000 D	13.00	579.00	Linear Foot	7,527.00	15,054.00
Fairplex Drain	42" RCP, 1700 D	13.50	937.00	Linear Foot	12,648.50	25,299.00
Fairplex Drain	48" RCP, 1700 D	14.00	509.00	Linear Foot	7,126.00	14,252.00
Fairplex Drain	54" RCP, 1800 D	14.50	1,498.00	Linear Foot	21,771.00	43,442.00
Fairplex Drain	60" RCP, 1800 D	15.00	10.00	Linear Foot	150.00	300.00
Fairplex Drain	66" RCP, 1500 D	15.50	487.00	Linear Foot	7,548.50	15,097.00
Fairplex Drain	72" RCP, 1450 D	16.00	455.00	Linear Foot	7,280.00	14,560.00
Fairplex Drain	30" RCP, 2000 D	12.50	668.00	Linear Foot	8,350.00	16,700.00
Fairplex Drain	90" Rubber Gasketed RCP, 1400 D	17.50	230.00	Linear Foot	4,025.00	8,050.00
Fairplex Drain	78" Rubber Gasketed RCP, 1450 D	16.50	959.00	Linear Foot	15,823.50	31,647.00
Fairplex Drain	60" Rubber Gasketed RCP, 1800 D	15.00	138.00	Linear Foot	2,070.00	4,140.00
<b>Total</b>					<b>101,657.00</b>	<b>202,114.00</b>

**Calculation of Average Shoring per Linear Foot for Fairplex Drain Project**

Shoring of Open Excavations (2)

Engineer's Estimate

Low Bidder Item Bid

Average Item Bid

Total Shoring Area

Average Shoring per Square Foot

Bid Date

CCI for Los Angeles for June 2004

CCI for Los Angeles for June 2006

Adjustment Factor

CCI Adjusted Average Shoring per Linear Foot

\$222,000.00
\$494,800.00
(a) \$716,716.70
(b) 202,114.00
(c) = a/b
\$3.55
Jun-04

(e)

7843.85

(f)

8546.72

(g) = f/e

1.09

(h) = d/g

\$3,866

Project Name	Description	Trench Depth	Length	Unit of Measure	Trench Depth * Length	Trench Depth * Length * 2
(A)	(B)	(C)	(D)	(E) = B*C	(F) = 2*E	
Ward Channel Invert & Connector Pipe Repairs	72" RCP, 0800 D	10.50	16.00	Linear Foot	168.00	336.00

**Calculation of Average Shoring per Linear Foot for Ward Channel Invert and Connector Pipe Repairs Project**

Shoring of Open Excavations (2)

Engineer's Estimate

Low Bidder Item Bid

Average Item Bid

Total Shoring Area

Average Shoring per Square Foot

Bid Date

CCI for Los Angeles for December 2003

CCI for Los Angeles for June 2006

Adjustment Factor

CCI Adjusted Average Shoring per Linear Foot

\$1,620.00
\$1,650.00
\$8,925.00
(a) 336.00
(b) \$20.31
(c) = a/b
Apr-03

(e)

7531.77

(f)

8546.72

(g) = f/e

1.13

(h) = d/g

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY SHORING COST ESTIMATE  
FISCAL YEAR 2005-06**

Project Name	(A)	(B)	(C)	(D)	(E) = B/C	(F) = 2/E
Description	Trench Depth	Length	Unit of Measure	Trench Depth * Length	Trench Depth * Length * 2	
Altadena System Lincoln Debris Basin Enlargement	72" RCP, 2000 D	16.00	157.00	Linear Foot	2,512.00	5,024.00
Altadena System Lincoln Debris Basin Enlargement	36" RCP, 2000 D	13.00	108.00	Linear Foot	1,404.00	2,808.00
Altadena System Lincoln Debris Basin Enlargement	24" RCP, 2000 D	12.00	127.00	Linear Foot	1,524.00	3,048.00
<b>Total</b>					<b>5,440.00</b>	<b>10,880.00</b>

**Calculation of Average Shoring per Linear Foot for Altadena System Lincoln Debris Basin Enlargement Project**

Shoring of Open Excavations (2)  
 Engineer's Estimate  
 Low Bidder Item Bid  
 Average Item Bid  
 Total Shoring Area  
 Average Shoring per Square Foot  
 Bid Date  
 CCI for Los Angeles for December 2002 (3)  
 CCI for Los Angeles for June 2006  
 Adjustment Factor  
 CCI Adjusted Average Shoring per Linear Foot

Project Name	(A)	(B)	(C)	(D)	(E) = B/C	(F) = 2/E
Description	Trench Depth	Length	Unit of Measure	Trench Depth * Length	Trench Depth * Length * 2	
Beverly Pico Drain, Unit 2	18" RCP, 2000 D	10.50	146.00	Linear Foot	1,533.00	3,066.00
Beverly Pico Drain, Unit 2	54" RCP, 1100 D	8.75	43.00	Linear Foot	376.25	752.50
Beverly Pico Drain, Unit 2	72" RCP, 0850 D	8.00	1,614.00	Linear Foot	12,912.00	25,824.00
<b>Total</b>					<b>14,821.25</b>	<b>29,642.50</b>

**Calculation of Average Shoring per Linear Foot for Beverly Pico Drain, Unit 2 Project**

Shoring of Open Excavations (2)  
 Engineer's Estimate  
 Low Bidder Item Bid  
 Average Item Bid  
 Total Shoring Area  
 Average Shoring per Square Foot  
 Bid Date  
 CCI for Los Angeles for December 2001 (3)  
 CCI for Los Angeles for June 2006  
 Adjustment Factor  
 CCI Adjusted Average Shoring per Linear Foot

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY SHORING COST ESTIMATE  
FISCAL YEAR 2005-06**

Project Name	Description	(B)	(C)	(D)	(E) = B/C	(F) = 2:E
Vernon Channel - Fieldbrook Debris Basin	18" RCP, 2000 D	10.50	40.00	Linear Foot	420.00	\$40.00
Vernon Channel - Fieldbrook Debris Basin	42" RCP, 1500 D	8.50	44.00	Linear Foot	374.00	748.00
Vernon Channel - Fieldbrook Debris Basin	72" RCP, 1550 D	22.00	84.00	Linear Foot	1,348.00	3,696.00
<b>Total</b>					<b>2,642.00</b>	<b>5,284.00</b>

**Calculation of Average Shoring per Linear Foot for Vernon Channel - Fieldbrook Debris Basin Project**

Shoring of Open Excavations (a)  
 Engineer's Estimate \$0.00  
 Low Bidder Item Bid (a) \$14,800.00  
 Average Item Bid (b) \$12,500.00  
 Total Shoring Area 5,284.00  
 Average Shoring per Square Foot \$2.80  
 Bid Date May-01  
 CCI for Los Angeles for December 2001 (e) 7226.92  
 CCI for Los Angeles for June 2006 (f) 8546.72  
 Adjustment Factor (g) = f/e 1.18  
 CCI Adjusted Average Shoring per Linear Foot (h) = d\*g \$3.31

Project Name	Description	(B)	(C)	(D)	(E) = B/C	(F) = 2:E
Busby Drain and Cash Contract 7643	24" RCP, 2250 D and Less	12.00	238.00	Linear Foot	2,856.00	5,712.00
Busby Drain and Cash Contract 7643	18" RCP, 2250 D and Less	11.50	1,204.00	Linear Foot	13,346.00	27,692.00
Busby Drain and Cash Contract 7643	36" RCP, 2000 D	13.00	211.00	Linear Foot	2,743.00	5,486.00
Busby Drain and Cash Contract 7643	48" RCP, 1700 D	14.00	85.00	Linear Foot	1,190.00	2,380.00
Busby Drain and Cash Contract 7643	48" RCP, 1500 D	13.00	784.00	Linear Foot	10,192.00	20,384.00
Busby Drain and Cash Contract 7643	48" RCP, 1400 D	17.00	981.00	Linear Foot	16,847.00	33,694.00
Busby Drain and Cash Contract 7643	42" RCP, 1700 D	13.50	486.00	Linear Foot	6,561.00	13,122.00
Busby Drain and Cash Contract 7643	78" RCP, 1550 D	22.50	495.00	Linear Foot	11,137.50	22,275.00
Busby Drain and Cash Contract 7643	78" RCP, 1250 D	18.50	1,064.00	Linear Foot	19,684.00	39,368.00
Busby Drain and Cash Contract 7643	78" RCP, 0900 D	10.50	495.00	Linear Foot	5,197.50	10,395.00
<b>Total</b>		<b>20.00</b>	<b>726.00</b>	<b>Linear Foot</b>	<b>14,520.00</b>	<b>29,040.00</b>
					<b>104,774.00</b>	<b>209,548.00</b>

**Calculation of Average Shoring per Linear Foot for Busby Drain and Cash Contract 7643 Project**

Shoring of Open Excavations (a)  
 Engineer's Estimate \$0.00  
 Low Bidder Item Bid (a) \$100,000.00  
 Average Item Bid (b) \$169,662.62  
 Total Shoring Area 209,548.00  
 Average Shoring per Square Foot \$0.81  
 Bid Date Jun-01  
 CCI for Los Angeles for December 2001 (e) 7226.92  
 CCI for Los Angeles for June 2006 (f) 8546.72  
 Adjustment Factor (g) = f/e 1.18  
 CCI Adjusted Average Shoring per Linear Foot (h) = d\*g \$0.96

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY SHORING COST ESTIMATE  
FISCAL YEAR 2005-06**

Project Name	Total Trench Depth • Length • 2	(A)	(B)	(C) = A/B	(D) = C/A
		CCI Adjusted Average Shoring Cost per Linear Foot	CCI Adjusted Average Shoring Cost per Linear Foot	Total CCI Adjusted Shoring Cost	CCI Adjusted Average Shoring Cost per Linear Foot
Fairplex Drain	202'114.00	\$2.86	\$780,940.09		
Ward Channel Invert & Connector Pipe Repairs	336.00	\$23.05	\$7,744.71		
Alladena System Lincoln Debris Basin Enlargement	10,880.00	\$0.96	\$10,390.80		
Beverly Pico Drain, Unit 2	29,642.50	\$2.61	\$77,277.87		
Vernon Channel - Fieldbrook Debris Basin	5,284.00	\$3.31	\$17,502.82		
Busby Drain and Cash Contract 7643	209,549.00	\$0.96	\$200,646.87		
<b>Total</b>	<b>457,804.50</b>			<b>\$1,094,503.16</b>	<b>\$2.39</b>

**Average Trench Depth Calculation of 72" RCP**

Project Name	Description	(A)	(B)	(C)	(D)	(E) = B/C	(F) = E / C
		Trench Depth	Length	Unit of Measure	Trench Depth *	Average Trench Length	Average Trench Depth
Fairplex Drain	72" RCP 1450 D	16.00	455.00	Linear Foot	7,280.00		
Ward Channel Invert & Connector Pipe Repairs	72" RCP .0800 D	10.50	16.00	Linear Foot	168.00		
Alladena System Lincoln Debris Basin Enlargement	72" RCP .2000 D	16.00	157.00	Linear Foot	2,512.00		
Beverly Pico Drain, Unit 2	72" RCP .0850 D	8.00	1,614.00	Linear Foot	12,912.00		
Vernon Channel - Fieldbrook Debris Basin	72" RCP .1550 D	22.00	84.00	Linear Foot	1,848.00		
Busby Drain & Cash Contract 7643	72" RCP .1400 D	20.00	726.00	Linear Foot	14,520.00		
<b>Total</b>			<b>3,052</b>		<b>39,240.00</b>	<b>12.86</b>	

Shoring Cost per Linear Foot = CCI Adjusted Shoring Cost per Square Foot • Average Trench Depth • 2

Shoring Cost per Linear Foot =	\$2.39 * 12.86 LF * 2
<b>Shoring Cost per Linear Foot =</b>	<b>\$61.48</b>

**Footnotes:**

(1) Trench depth determined by "D Load Table" per Los Angeles County Flood Control District "Structural Design Manual" DWG No. 2-D213.3.

(2) The Antelope Valley region requires various assumptions as to the location, size, and costs of drainage needs associated with future developments. The greatest amount among the Engineer's Estimate, Low Bidder Item Bid, and Low Bidder Item Bid was used as the base price to determine shoring cost.

(3) Used ENR published CCI for Los Angeles to adjust the base price. ENR traditionally publishes the CCI in December on a year-to-year basis. Due to significant increased construction costs in recent years, ENR began publishing CCI on a monthly-monthly basis beginning January 2004. CCI for December will be used for projects with a bid date prior to 2004.

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY RECTANGULAR CHANNEL COST ESTIMATE  
FISCAL YEAR 2005-06**

Project Name	Description	(A)	(B)	(C)	(D)	(E) = B/C	(F)	(G)
		Cubic Yard Per Linear Foot	Quantity	Unit of Measure	Total Quantity of Concrete (Cubic Yard)	Engineer's Estimate Per Linear Foot	Low Bidder Item Bid Per Linear Foot	Average Item Bid Per Linear Foot
Buena Vista Channel	08'-00" W * 09'-06" H RCB, SECT 07	0.32	35.00	Linear Foot	32.20	\$ 526.00	\$ 690.00	\$ 690.83
Buena Vista Channel	07'-03" W * 04'-06" H RCB, SECT 06	0.70	32.00	Linear Foot	22.40	\$ 358.00	\$ 470.00	\$ 552.17
Buena Vista Channel	09'-00" W * 10'-00" H DBL RCB, SECT 09	1.70	12.00	Linear Foot	20.40	\$ 1,000.00	\$ 1,100.00	\$ 1,399.50
Buena Vista Channel (2)	09'-00" W * 08'-00" H DBL RCB, SECT 08	2.15	935.00	Linear Foot	2,010.25	\$ 1,154.00	\$ 560.00	\$ 1,359.00

**Calculation of Adjustment Factor for Buena Vista Channel**

Bid Date: May-03  
 Engineering News Record (ENR's) Construction Cost Index (CCI) for Los Angeles for December 2003  
 CCI for Los Angeles for June 2006  
 Adjustment Factor: 1.13

(a)  
 (b)  
 (c)  
 (d) = cb

Project Name	Description	(A)	(B)	(C)	(D)	(E) = B/C	(F)	(G)
		Cubic Yard Per Linear Foot	Quantity	Unit of Measure	Total Quantity of Concrete (Cubic Yard)	Engineer's Estimate Per Linear Foot	Low Bidder Item Bid Per Linear Foot	Average Item Bid Per Linear Foot
Ninth Avenue Drain	08'-00" W * 02'-00" H RCB, SECT 02	0.68	381.00	Linear Foot	259.08	\$ 418.00	\$ 301.69	\$ 430.67
Ninth Avenue Drain	06'-00" W * 03'-00" H RCB, SECT 01	0.56	20.00	Linear Foot	11.20	\$ 520.00	\$ 604.35	\$ 700.44

**Calculation of Adjustment Factor for Ninth Avenue Drain**

Bid Date: May-04  
 CCI for Los Angeles for May 2004  
 CCI for Los Angeles for June 2006  
 Adjustment Factor: 1.10

(a)  
 (b)  
 (c)  
 (d) = cb

Project Name	Description	(A)	(B)	(C)	(D)	(E) = B/C	(F)	(G)
		Cubic Yard Per Linear Foot	Quantity	Unit of Measure	Total Quantity of Concrete (Cubic Yard)	Engineer's Estimate Per Linear Foot	Low Bidder Item Bid Per Linear Foot	Average Item Bid Per Linear Foot
Project No. 64, Eastern Avenue Storm Drain	07'-10" W * 05'-00" H RCB	0.99	58.00	Linear Foot	57.42	\$ 332.00	\$ 600.00	\$ 905.63
Project No. 64, Eastern Avenue Storm Drain	08'-06" W * 05'-00" H RCB	1.04	2,053.00	Linear Foot	2,135.12	\$ 350.00	\$ 500.00	\$ 555.63

**Calculation of Adjustment Factor for Project No. 64, Eastern Avenue Storm Drain**

Bid Date: Jun-05  
 CCI for Los Angeles for June 2005  
 CCI for Los Angeles for June 2006  
 Adjustment Factor: 1.03

(a)  
 (b)  
 (c)  
 (d) = cb

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY RECTANGULAR CHANNEL COST ESTIMATE  
FISCAL YEAR 2005-06**

Project Name	Description	Cubic Yard Per Linear Foot	Quantity	Unit of Measure	(E) = B*C	(F)	(G)
Beverly Pico Drain, Unit 2	10'00" W * 02'-06" H RCB, SECT 10	0.85	10.00	Linear Foot	\$ 8.50	\$ 868.99	\$ 1.18 \$ 1,388.24

Calculation of Adjustment Factor for Beverly Pico Drain, Unit 2	
Bid Date	Jun-01
CCJ for Los Angeles for December 2001	(a) 7226.92
CCJ for Los Angeles for June 2006	(b) 8546.72
Adjustment Factor	(c) 1.18 (d) = c/b

Project Name	Description	Cubic Yard Per Linear Foot	Quantity	Unit of Measure	(E) = B*C	(F)	(G)
Beverly Pico Drain, Unit 2	10'00" W * 02'-06" H RCB, SECT 10	0.85	10.00	Linear Foot	\$ 8.50	\$ 868.99	\$ 1.18 \$ 1,388.24

## Calculation of Concrete Cost per Cubic Yard Weighted by Volume

Project Name	Description	Cubic Yard Per Linear Foot	Quantity	(A)	(B)	(C) = A/B	Weighted By Volume Concrete Cost per Cubic Yard
Buenavista Channel	08'-00" W * 09'-06" H RCB, SECT 07	32.20	32.20	\$848.52	\$27,322.33		
Buenavista Channel	07'-03" W * 04'-06" H RCB, SECT 06	22.40	22.40	891.36	19,986.47		
Buenavista Channel	09'-00" W * 10'-00" H DBL RCB, SECT 09	20.40	20.40	930.26	18,977.22		
Buenavista Channel	09'-00" W * 08'-00" H DBL RCB, SECT 08	2,010.92	714.27	1,435.85	1,435.85		
Ninth Avenue Drain	08'-00" W * 02'-00" H RCB, SECT 02	259.08	686.67	180,433.80			
Ninth Avenue Drain	06'-00" W * 03'-00" H RCB, SECT 01	11.20	1,375.86	15,409.68			
Project No. 64, Eastern Avenue Storm Drain	07'-10" W * 05'-00" H RCB	57.42	943.26	54,152.08			
Project No. 64, Eastern Avenue Storm Drain	08'-06" W * 05'-00" H RCB	2,135.12	580.00	1,238,367.34			
Beverly Pico Drain, Unit 2	10'-00" W * 02'-06" H RCB, SECT 10	8.50	1,388.24	11,80.00			
<b>Total</b>		<b>4,566.57</b>		<b>\$3,602,350.36</b>			<b>\$655.91</b>

Per Design Division, one linear foot requires 0.79 cubic yard of concrete

Concrete Cost per linear foot = \$658.91 • 0.79

\$520.54

Assume 10% Increase<sup>(3)</sup> \$520.54 • 1.1

Concrete Cost per linear foot with 10% increment = \$520.54 • 1.1 = \$572.59

Footnotes:

- The Antelope Valley region requires various assumptions as to the location, size, and costs of drainage needs associated with future developments. The greatest amount among the Engineer's Estimate, Low Bidder Item Bid, and Low Bidder Item Bid was used as the base price to determine the rectangular channel concrete cost per cubic yard.
- The Average Item Bid for some reason was bid at half the typical costs. Thus, Design Division multiplied the cost by 2 to be within cost proximities.

- Used ENR published CCJ for Los Angeles to adjust the base price. ENR traditionally published the CCJ in December on a year-to-year basis. Due to significant increased construction costs in recent years,

- ENR began publishing CCJ on a month-to-month basis beginning January 2004. CCJ for December will be used for projects with a bid date prior to 2004.

- Past bid history projects had different amounts of concrete per linear foot. Such different amounts mean there are different volumes of concrete in cubic yard per linear foot. Hence, a weighted average volume is required to determine average cost per cubic yard for the past bid history projects and then convert into an average cost per linear foot.

- According to Mike Hong of Design Division, add 10% for possible increased construction costs.

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTEROPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTEROPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE**  
**FISCAL YEAR 2005-06**

Cost Estimate Type	Name of Project (A)	Bid Date (B)	Average Item Bid (C) <sup>(1)</sup>	Engineer's Estimate (D) <sup>(1)</sup>	Low Bidder Item Bid (E) <sup>(1)</sup>	Quantity (F)	CC1 @ Bid Date (G) <sup>(2)</sup>	CC1 @ June 2006 (H)	Adjustment Factor (I) = H / G	Greater or item Cost C, D or E Adjusted With Adjustment Factor (K) = F * J	Amount (K) = F * J	Weighted Average Unit Cost (L) = K / F
Construction Schedule	Buena Vista Channel Ninth Avenue Drain	May-03	\$ 816.67	\$ 900.00	\$ 2,300.00	10	7531.77	8546.72	1.13	\$ 2,609.94	\$ 26,099.38	
	Project No. 64, Eastern Avenue Storm Drain	May-04	\$ 698.03	\$ 925.00	\$ 498.33	9	7803.52	8546.72	1.10	\$ 1,013.10	\$ 9,117.87	
	<b>Total</b>					<b>8</b>	<b>8299.28</b>	<b>8546.72</b>	<b>1.03</b>	<b>\$ 916.54</b>	<b>\$ 7,332.28</b>	
	Buena Vista Channel Gratian Street Drain	May-03	\$ 15,150.00	\$ 10,000.00	\$ 30,900.00	1	7531.77	8546.72	1.13	\$ 35,063.96	\$ 35,063.96	
	Puddingstone Channel Invert Access Ramp Liberty Canyon Channel Access Ramp @ PD 572 Ninth Avenue Drain	Dec-02 Apr-03 Jun-04 May-04	\$ 1,641.67 \$ 3,639.29 \$ 4,172.77 \$ 14,323.80	\$ 3,000.00 \$ 4,000.00 \$ 2,000.00 \$ 13,000.00	\$ 500.00 \$ 8,050.00 \$ 1,000.00 \$ 15,238.00	1 1 1 1	7402.75 7531.77 7843.85 7803.52	8546.72 8546.72 8546.72 8546.72	1.15 1.13 1.09 1.10	\$ 3,463.60	\$ 3,463.60	
Implementation of BMPs	Project No. 64, Eastern Avenue Storm Drain Beverly Pico Drain, Unit 2	Jun-05	\$ 890.00	\$ 500.00	\$ 500.00	<b>27</b>						
	<b>Total</b>					<b>27</b>						<b>\$ 42,549.63</b>
	Buena Vista Channel Ninth Avenue Drain	May-03	\$ 5,000.00	\$ 5,000.00	\$ 11,000.00	1	7531.77	8546.72	1.13	\$ 12,482.31	\$ 12,482.31	
	<b>Total</b>		\$ 8,402.50	\$ 10,000.00	\$ 4,025.00	<b>2</b>						<b>\$ 10,952.39</b>
												<b>\$ 23,534.70</b>
Stormwater Pollution Prevention Plan	Buena Vista Channel Gratian Street Drain	May-03 May-04	\$ 22,316.67 \$ 8,402.50	\$ 30,000.00 \$ 10,000.00	\$ 55,900.00 \$ 4,025.00	<b>1</b>	7531.77 7803.52	8546.72 8546.72	1.10 1.10	\$ 10,952.39	\$ 10,952.39	
	<b>Total</b>					<b>2</b>						<b>\$ 11,717.35</b>
	Buena Vista Channel Gratian Street Drain	May-03 Dec-02 Apr-03 May-04	\$ 3,127.33 \$ 4,114.64 \$ 49,897.90	\$ 1,880.00 \$ 4,000.00 \$ 92,000.00	\$ 4,100.00 \$ 10,005.00 \$ 38,479.00	1 1 1	7402.75 7531.77 7803.52	8546.72 8546.72 8546.72	1.15 1.13 1.10	\$ 4,733.59 \$ 11,353.23 \$ 100,761.99	\$ 4,733.59 \$ 11,353.23 \$ 100,761.99	
	<b>Total</b>					<b>4</b>						<b>\$ 180,281.66</b>
												<b>\$ 45,070.42</b>

**DEPARTMENT OF PUBLIC WORKS**  
**WATERSHED MANAGEMENT DIVISION**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES**  
**ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE**  
**FISCAL YEAR 2005-06**

Cost Estimate Type	Name of Project (A)	Bid Date (B)	Average Item Bid (C) <sup>(1)</sup>	Engineer's Estimate (D) <sup>(1)</sup>	Low Bidder Item Bid (E) <sup>(1)</sup>	Quantity (F)	CCI @ Bid Date (G) <sup>(2)</sup>	CCI @ June 2006 (H)	Adjustment Factor (I) = H / G	Greater of Item Cost C, D or E Adjusted With Adjustment Factor (K) = F * J	Amount (K)	Weighted Average Unit Cost (L) = K / F
Office Facilities	Buena Vista Channel	May-03	\$ 18,650.00	\$ 13,600.00	\$ 25,900.00	1	7531.77	8546.72	1.13	\$ 29,390.18	\$ 29,390.18	
	Gratian Street Drain	Dec-02	\$ 3,402.33	\$ 2,550.00	\$ 3,250.00	1	7402.75	8546.72	1.15	\$ 3,928.10	\$ 3,928.10	
	Ninth Avenue Drain	May-04	\$ 13,429.90	\$ 12,750.00	\$ 11,299.00	1	7803.52	8546.72	1.10	\$ 14,708.95	\$ 14,708.95	
	Project No. 64, Eastern Avenue Storm Drain	Jun-05	\$ 20,562.50	\$ 5,000.00	\$ 5,000.00	1	8299.28	8546.72	1.03	\$ 21,175.56	\$ 21,175.56	
	Beverly Pico Drain, Unit 2	Jun-01	\$ 6,875.14	\$ -	\$ 3,000.00	1	7226.92	8546.72	1.18	\$ 8,130.70	\$ 8,130.70	
	<b>Total</b>					<b>5</b>				<b>\$ 77,353.49</b>	<b>\$ 15,466.70</b>	
Mobilization	Channel	May-03	\$ 340,535.70	\$ 300,000.00	\$ 413,214.20	1	7531.77	8546.72	1.13	\$ 468,897.23	\$ 468,897.23	
	Gratian Street Drain	Dec-02	\$ 7,961.67	\$ 4,700.00	\$ 8,000.00	1	7402.75	8546.72	1.15	\$ 9,236.26	\$ 9,236.26	
	Ninth Avenue Drain	May-04	\$ 188,197.30	\$ 200,000.00	\$ 147,973.00	1	7803.52	8546.72	1.10	\$ 219,047.81	\$ 219,047.81	
	Project No. 64, Eastern Avenue Storm Drain	Jun-05	\$ 68,126.25	\$ 30,000.00	\$ 5,000.00	2	8299.28	8546.72	1.03	\$ 70,157.41	\$ 140,314.82	
	<b>Total</b>					<b>6</b>				<b>\$837,496.12</b>	<b>\$ 167,499.22</b>	
	Vernon Channel-Fieldbrook Debris Basin	May-01	\$ 8,36	\$ -	\$ 10,00	15,100	7226.92	8546.72	1.18	\$ 11,83	\$ 11,83	
Structural Excavation	126TH Street El A1.	Apr-02	\$ 30.71	\$ 50.00	\$ 23.00	672	7402.75	8546.72	1.15	\$ 57.73	\$ 57.73	
	Paseo Del Rio San Gabriel Coastal Basin Spreading Grounds, Phase 2, Multiuse Improvements	Sep-05	\$ 512.50	\$ 150.00	\$ 100.00	15	8485.2	8546.72	1.01	\$ 516.22	\$ 7,743.24	
	<b>Total</b>					<b>15.787</b>				<b>\$225,111.53</b>	<b>\$ 14.26</b>	
AC Pavement Crushed Aggregate	Design Division consulted with its Highway Unit for today's unit costs for AC pavement and crushed aggregate.											
Chain Link ROW Wall Fences	Buena Vista Channel	May-03	\$ 8.58	\$ 10.85	\$ 8.00	5,074	7531.77	8546.72	1.13	\$ 12.31	\$ 62,471.60	
	Puddingstone Channel Invert Access Ramp Ninth Avenue Drain	Apr-03	\$ 23.15	\$ 26.00	\$ 8.53	89	7531.77	8546.72	1.13	\$ 29.50	\$ 2,625.83	
	<b>Total</b>					<b>6,553</b>				<b>\$ 9,423.44</b>	<b>\$ 74,520.86</b>	
											<b>\$ 13.40</b>	

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE  
FISCAL YEAR 2005-06**

Cost Estimate Type	Name of Project (A)	Bid Date (B)	Average Item Bid (C) <sup>(1)</sup>	Engineer's Estimate (D) <sup>(1)</sup>	Low Bidder Item Bid (E) <sup>(1)</sup>	Quantity (F)	CCI @ Bid Date June 2006 (G) <sup>(2)</sup>	Adjustment Factor (I) = H / G	Greater of Item Cost C, D or E Adjusted With (K) = F * J	Weighted Average Unit Cost (L) = K / F	
									Amount (K)	Adjustment Factor (I) = H / G	
Chain Link Channel Wall Fences	Buena Vista Channel Ninth Avenue Drain	May-03	\$ 7.58	\$ 9.94	\$ 6.00	3,883	7531.77	8546.72	1.13	\$ 11,283	\$ 43,910.99
<b>Total</b>		May-04	\$ 21.51	\$ 20.00	\$ 16.10	400	7803.52	8546.72	1.10	\$ 23,566	\$ 9,423.44
4' High Walk Gate	Buena Vista Channel	May-03	\$ 323.00	\$ 375.00	\$ 330.00	1	7531.77	8546.72	1.13	\$ 425.53	\$ 63,334.43
<b>Total</b>											<b>12.42</b>
24' Double-Drive Gate	Buena Vista Channel	May-03	\$ 800.00	\$ 1,500.00	\$ 1,050.00	1	7531.77	8546.72	1.13	\$ 425.53	\$ 425.53
<b>Total</b>											<b>425.53</b>
16' Double-Drive Gate	Buena Vista Channel Puddingstone Channel Invert Access Ramp Ninth Avenue Drain	May-03	\$ 774.83	\$ 1,200.00	\$ 660.00	2	7531.77	8546.72	1.13	\$ 1,361.71	\$ 2,723.41
16' Double-Drive Gate	Ninth Avenue Drain	Apr-03	\$ 1,747.21	\$ 1,200.00	\$ 811.00	1	7531.77	8546.72	1.13	\$ 1,982.66	\$ 1,982.66
16' Double-Drive Gate	Ninth Avenue Drain	May-04	\$ 2,024.30	\$ 1,250.00	\$ 863.00	1	7803.52	8546.72	1.10	\$ 2,217.09	\$ 2,217.09
<b>Total</b>											<b>\$ 6,923.16</b>
15' Double-Drive Gate	Liberty Canyon Channel Access Ramp @ PD 572	Jun-04	\$ 859.67	\$ 1,200.00	\$ 500.00	1	7843.85	8546.72	1.09	\$ 1,307.53	\$ 1,730.79
<b>Total</b>											<b>1,702.13</b>
Catch Basin Per Sidewalk Plan 300, W=07	Ninth Avenue Drain	May-04	\$ 3,613.90	\$ 3,362.00	\$ 3,879.00	8	7803.52	8546.72	1.10	\$ 4,248.43	\$ 33,987.46
Catch Basin Per Sidewalk Plan 307, W=07	Ninth Avenue Drain	May-04	\$ 4,018.80	\$ 7,559.00	\$ 4,488.00	2	7803.52	8546.72	1.10	\$ 8,311.77	\$ 16,623.54
<b>Total</b>											<b>\$ 50,611.00</b>
Manhole Per Sidewalk Plan 322	Ninth Avenue Drain	May-04	\$ 4,780.00	\$ 6,427.00	\$ 4,600.00	8	7803.52	8546.72	1.10	\$ 7,039.10	\$ 1,307.53
<b>Total</b>											<b>1,307.53</b>
Junction Structure Per Sidewalk Plan 331	Ninth Avenue Drain	May-04	\$ 1,255.00	\$ 1,200.00	\$ 1,150.00	50	7803.52	8546.72	1.10	\$ 1,374.53	\$ 56,312.81
Junction Structure Per Sidewalk Plan 333	Ninth Avenue Drain	May-04	\$ 1,521.00	\$ 1,375.00	\$ 1,380.00	3	7803.52	8546.72	1.10	\$ 1,665.86	\$ 4,997.58
<b>Total</b>											<b>\$ 73,723.83</b>
18' RCP (2000 D)	Ninth Avenue Drain Beverly Picco Drain, Unit 2	May-04	\$ 97.61	\$ 75.00	\$ 57.10	1,904	7803.52	8546.72	1.10	\$ 106.91	\$ 203,549.57
<b>Total</b>											<b>7,039.10</b>
24' RCP (2000 D)	Giraffian Street Ninth Avenue Drain	Dec-02	\$ 177.67	\$ 145.00	\$ 94.00	138	7402.75	8546.72	1.15	\$ 205.13	\$ 28,307.37
<b>Total</b>		May-04	\$ 107.32	\$ 95.00	\$ 69.16	192	7803.52	8546.72	1.10	\$ 117.54	\$ 22,567.88
											<b>\$ 50,875.26</b>
											<b>154.17</b>

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE  
FISCAL YEAR 2005-06**

Cost Estimate Type	Name of Project (A)	Bid Date (B)	Average Item Bid (C) (\$)	Engineer's Estimate (D) (\$)	Low Bidder Item Bid (E) (\$)	Quantity (F)	CCI @ June 2006 (G) (\$)	Cost C, D or E Adjusted With (H)	Adjustment Factor (I) = H / G	Weighted Average Unit Cost (L) = K / F	Amount (K) = F * J
30" RCP (2000 D)	Buena Vista Channel Ninth Avenue Drain	May-03	\$ 257.00	\$ 131.00	\$ 310.00	8	\$ 7531.77	\$ 8546.72	1.13	\$ 351.77	\$ 2,814.19
Total		May-04	\$ 127.38	\$ 130.00	\$ 82.83	643	\$ 7803.52	\$ 8546.72	1.10	\$ 142.38	\$ 91,551.03
42" RCP (2000 D)	Ninth Avenue Drain	May-04	\$ 168.18	\$ 172.00	\$ 126.83	202	\$ 7803.52	\$ 8546.72	1.10	\$ 188.38	\$ 38,052.98
Total						202					\$ 38,052.98
											\$ 188.38
Cost Estimate Type	Name of Project (A)	Width (Feet) (B)	Weighted Average Unit Cost (C)	Weighted Average Cost Per Foot (D) = C / B	Weighted Average Cost For 12' (E) = D*12						
15' Double-Drive Gate	Liberty Canyon Channel Access Ramp @ PD 572 Buena Vista Channel, Puddingstone Channel Invert Access Ramp, Ninth Avenue Drain	15	\$ 1,307.53	\$ 87.17							
16' Double-Drive Gate	Buena Vista Channel	16	\$ 1,730.79	\$ 108.17							
24" Double-Drive Gate	Average for 12' Double-Drive Gate (4)	24	\$ 1,702.13	\$ 70.92							
		55	\$ 4,740.45	\$ 86.19	\$ 1,034.28						
Cost Estimate Type	Name of Project (A)	Diameter (Inch) (B)	Weighted Average Unit Cost (C)	Weighted Average Unit Cost Per Inch (D) = C / B	Weighted Average Item Bid For 21" (E) = D*21						
18" RCP (2000 D)	Ninth Avenue Drain, Beverly Pico Drain Unit 2 Gratiot Street Drain, Ninth Avenue Drain Buena Vista Channel, Ninth Avenue Drain Ninth Avenue Drain	18	\$ 109.19	\$ 6.07							
24" RCP (2000 D)		24	\$ 154.17	\$ 6.42							
30" RCP (2000 D)		30	\$ 144.95	\$ 4.83							
42" RCP (2000 D)		42	\$ 188.38	\$ 4.49							
Average for 24" RCP (2000 D) (5)		114	\$ 596.70	\$ 5.23	\$ 109.92						

**DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE  
FISCAL YEAR 2005-06**

Cost Estimate Type (A)	Name of Project (B)	Average Item Bid (C) <sup>(1)</sup>	Engineer's Estimate (D) <sup>(1)</sup>	Low Bidder Item Bid (E) <sup>(1)</sup>	Quantity (F)	CCI @ Bid Date (G) <sup>(2)</sup>	CCI @ June 2006 (H)	Adjustment Factor (I) = H / G	Greater or Item Cost C, D or E Adjusted With Adjustment Factor (J) = F * I	Amount (K) = F * J	Weighted Average Unit Cost (L) = K / F
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Footnotes:

- (1) The Antelope Valley region requires various assumptions as to the location, size, and costs of drainage needs associated with future developments. The greatest amount among the Average Item Bid, Engineer's Estimate, and Low Bidder Item Bid was used as the base price to determine the CCI adjusted weighted average unit cost.
- (2) Used ENR published CCI for Los Angeles to adjust the base price. ENR traditionally publishes the CCI in December on a year-to-year basis. Due to significant increased construction costs in recent years, ENR began publishing CCI on a month-to-month basis beginning January 2004. CCI for December will be used for projects with a bid date prior to 2004.
- (3) Uses the weighted average method to determine the CCI adjusted weighted average unit cost.
- (4) There was no bid history found for 12' Double-Drive Gate, hence, it was determined by using the average of the Weighted Average Cost per foot of 24' Double-Drive Gate, 16' Double-Drive Gate, and 15' Double-Drive Gate multiplied by 12.
- (5) There was no bid history found for 21" RCP (2000 D), hence, it was determined by using the average of the Weighted Average Cost per inch of 18" RCP (2000 D), 24" RCP (2000 D), 30" RCP (2000 D), and 42" RCP (2000 D) multiplied by 21.

DEPARTMENT OF PUBLIC WORKS  
WATERSHED MANAGEMENT DIVISION  
ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES  
COMPARISON OF CURRENT FEES WITH THE PROPOSED FEES

Antelope Valley Comprehensive Plan Drainage Fee Description	(a) Current Fee	(b) Proposed Fee	(c) = b - a \$ Increase	(d) = c / a % Increase
Single-Family Drainage Fee	\$2,000	\$6,237	\$4,237	211.85%
Multi-Family Drainage Fee	\$1,000	\$3,119	\$2,119	211.90%
Commercial/Industrial Development Drainage Fee	\$10,000	\$31,183	\$21,183	211.83%

**NOTICE OF PUBLIC HEARING  
PROPOSED FEE INCREASE**

Notice is hereby given that a public hearing will be held by the Board of Supervisors regarding revisions to the drainage impact fee as described in the Antelope Valley Final Report on the Comprehensive Plan of Flood Control and Water Conservation.

Said hearing will be held on September 26, 2006, at 9:30 a.m., in the hearing room of the Board of Supervisors, Room 381, Hall of Administration, 500 West Temple Street (corner of Temple Street and Grand Avenue) Los Angeles, California 90012.

The Board of Supervisors will consider and may adopt the proposed fee increase. Further, notice is given that the Board of Supervisors may continue this hearing from time to time.

Written comments may be sent to the Executive Office of the Board of Supervisors at the above address. If you do not understand this notice or need more information please call (310) 939-7214.

Si no entiende esta noticia o si necesita más información favor de llamar al número (310) 939-7214.

BH:ad

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